



Flight Information Exchange Model Data Dictionary

Executive Summary: The realm of Air Traffic Management has evolved rapidly in the previous decades, from using localized, uncoordinated systems to implementing national, highly integrated systems. Now the expansion of air travel requires another step: trans-national integration of flight control systems. This effort requires many standardization steps, but one of the most important is the common definition of the data that constitute a "flight." The Flight Information Exchange Model (FIXM) provides the models that implement this standardization. When a majority of flight control systems are able to read and write flight messages in a common FIXM format, they will be able to coordinate the management of air traffic seamlessly.

This FIXM Data Dictionary serves as a catalogue of flight data elements (FDEs) that are expected to be exchanged using the FIXM standard. It provides a definition for those FDEs, as well as alternate names that reflect various nomenclatures across systems and domains, relationships among FDEs, data types, value ranges (where applicable), business rules associated with the individual use of each FDE, and references to authoritative documents where the FDEs can be found. This document is complementary to the other FIXM artifacts such as the FIXM models and the FIXM schemas.

27th June 2012

Version: 1.0

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Document History

Version	Date	Entered By	Description of changes
0.90	April 13, 2012	Booz Allen Hamilton	Produced the first draft based on the Flight Object Ontology FIXM report
0.91	April 19, 2012	Booz Allen Hamilton	Adjudicated first round of comments from development team
0.92	June 6, 2012	Booz Allen Hamilton	Updated Data Dictionary based on stakeholder feedback
1.0	June 27, 2012	Booz Allen Hamilton	Incorporated final updates from stakeholder feedback and operated minor editorial changes

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1 Dictionary Metadata Definitions

The dictionary-level metadata provide information about the FIXM Data Dictionary (FIXM DD) as a traceable entity. This metadata is used to identify specific versions of the Data Dictionary, and helps provide configuration management support.

1.1 Version

This metadata contains the version number of the document. This information can be used to provide configuration management and version control for the document. The version number consists of a major version number followed by a minor version number followed by a maintenance release number. The three numbers are separated by the period character ('.'). An example of a version number is "1.0.2".

The version number is assigned by the FIXM developer, following these rules:

1. The major version number is incremented whenever there are significant changes in the scope or content of FIXM. It is expected that major releases entail changes to the systems that use FIXM.
2. The minor version number is incremented whenever small changes to the scope or content of FIXM are operated. Minor releases are not expected to introduce significant changes to the systems using FIXM.
3. The maintenance release number is incremented whenever small changes are made to the FIXM documentation, but no changes to the model and schema. Most of these changes are editorial. Maintenance releases should not entail any changes to the systems using FIXM.

1.2 Date

Captures the date the current version of the document was officially released. This information, together with the version number, is used to provide configuration management and version control.

1.3 Author

This metadata captures the name and affiliation of the persons or organizations who contributed to the current version of the FIXM Data Dictionary.

1.4 Description of Changes

This metadata contains brief descriptions of the changes operated since the previous version.

2 Element Metadata Definitions

Element-level metadata are used to capture the meaning of the data elements, to provide the context in which they appear, and their associated business rules. They are as follows:

2.1 Name

This metadata captures a unique, descriptive name for the data element. The naming convention used in this document attempts to fulfill the following goals:

1. The data element name should not contain acronyms – to the extent possible. The use of acronyms raises the risk of the names being used erroneously.
2. The name should express – as much as possible – the type of data that it represents (e.g., time, speed, altitude)
3. The names should be constructed such that related data elements are adjacent in an alphabetized list. For example, “Alternate Destination Aerodrome” was named “Destination Aerodrome – Alternate” so it is adjacent to another related data element called “Destination Aerodrome”.

2.2 Definition

This metadata describes the data element in unambiguous and universal terms such that a reader, with a basic level of aviation domain knowledge, can have a clear understanding of what information the data element represents. If necessary, the description may point to references that provide further clarification. This description avoids jargon or references to systems’ behavior and is clear and succinct.

2.3 Alternate Names

This metadata captures alternate terms (e.g., terms from other domains that are used synonymously), related information (e.g., operational concepts for which the data element is important), and any other information that would facilitate the discovery of semantically equivalent (or related) data elements.

2.4 Has Parts

This metadata lists any other (possibly more basic) data elements contained by the data element to which the metadata refers. For example, the data element *aircraft* might have the following parts: *aircraftId*, *wakeTurbulenceCategory*, *icaoAddress*, *airborneEquipQualifier*, *operatingAgency*, and *registrationMark*.

2.5 Is Part Of

This metadata lists any data elements which contain (or reference) the data element to which the metadata refers. For example, an *altitude* data element might be a part of both *trajectory* and *aircraft*.

2.6 Range of Values

This metadata indicates the range of the values the data element can take. This is accomplished by either providing upper and lower threshold values, or by explicitly enumerating all the possible values. In case of an enumeration, this metadata also specifies if the data element can take only one or multiple of the enumeration values.

There are a few exceptions to how this metadata is used in the Data Dictionary:

1. In some cases, the list of all the possible values for a data element is too long to be captured in this document. In those cases, the “Range of Values” metadata field will contain a reference to the document(s) that specify the valid list of values.
2. Some data elements can assume either a free-form text value or one (or more) values from a controlled vocabulary. In these cases, “Range of Values” captures the controlled vocabulary, and the “Notes” section mentions the dual nature of the data element’s value.

Notation

The following notation conventions are used to describe the range of values:

1. **Discrete enumeration.** Predefined values that are listed explicitly and exhaustively. They are separated by commas, and the whole collection is delimited by curly brackets. Example: {IFR, VFR}. In a software implementation, this type of discrete enumeration would be implemented as an enumeration.
2. **Numeric range.** These are ranges of numbers that are defined implicitly by specifying the lower and upper limits, separated by a dash symbol ('-') and delimited by square brackets. Example: [0-99] specifies a range of 100 numeric values starting with 0 (inclusive of 0) and ending with 99 (inclusive of 99). Some numeric ranges are specified in bases other than 10, such as base 8 (octal) or 16 (hexadecimal). In these cases, an explanatory note is provided.
3. **Alphabetic range.** These are ranges of alphabetic characters defined implicitly by specifying the first and last characters, separated by the dash symbol ('-') and delimited by square brackets. Example: [A-Z] specifies a range of letters (ordered alphabetically) starting with upper-case 'A' and ending with upper-case 'Z'. Please note, that unless specified otherwise, all alphabetic characters are assumed to be upper case letters corresponding to the American Standard Code for Information Interchange (ASCII) characters in the range of 41_{hex} to 5A_{hex}.

These notation conventions can be combined, in order to express more complex types of ranges. For example:

1. [A-Z, 0-9] represents upper-case letters and numbers
2. {[A-Z], +, ,, -} represents upper-case letters, the '+' (plus) character, the ',' (comma) character, and the '-' (minus) character

The range of values, as defined above, can be accompanied by a modifier that further defines the range:

1. **Multiplicity.** The number of values that each data element can have is specified in plain language, preceding or following the range definition. For example, if the data element can take only one value from a discrete enumeration (i.e., the enumeration has mutually exclusive values), then the range is specified as "one of the following values: {V1, V2, V3, V4}". If multiple values are acceptable, the range is specified as "one or more of the following values: {V1, V2, V3, V4}". If there is an upper limit on how many values can be combined, that is specified also ("up to 3 of {V1, V2, V3, V4, V5}")
2. **Exclusion.** In certain cases, some values in an implicit range are not valid. In those cases, the invalid values are specified after the range. For example: "[A-S] excluding {I, N, O}"

Other considerations:

1. **Free-form text.** Unless otherwise specified, the default value range for the acceptable characters in free-form text is {[A-Z], [0-9], -, ?, :, (,), ., ,, ', =, /, +}

2. **Date / Time.** Any value for date/ time stamps is acceptable, subject to business rule restrictions (e.g., flight arrival time should be greater than flight departure time).
3. **Complex data elements.** Certain data elements are complex in nature (they contain other data elements as components). In these cases, the range of values is not specified (the value of the metadata field is "N/A".)
4. **Polymorphism.** Certain data elements can be expressed in multiple ways (e.g., either as a free-form text or a value from a controlled vocabulary). If one of the forms of the data element has a well-defined range, it will be captured in the "Range of Values" field - with the appropriate explanation as to which form the range applies.
5. **Multiple Units of Measure (UOM).** Some data elements (notably altitudes) can be expressed in multiple units of measure (e.g., feet, meters). In this case, a separate range is provided for each unit of measure.

2.7 Business Rules

Business Rules are information that define or constrain some aspect of the use of a particular data element. They have the following functions:

1. describe rules for grouping or associating data elements
2. define role or functionality associated with data elements
3. describe rules for using the data elements in specific contexts

For example, a business rule for *Length of Time Out Delay* might be "Time out delay logic is not applied to international flights."

2.8 Notes

This metadata captures any information or knowledge that does not fit in the metadata above.

2.9 References

This metadata lists specific documents which further define, explain, and/or provide additional information about the data element, its context and its role.

3 Data Types

Each of the data elements captured in this Data Dictionary is of one of the data types below:

	Data Type	Description
1.	Alpha Character	One upper-case alphabetic character in the range [A-Z]
2.	Alpha String	String of upper-case alphabetic characters in the range [A-Z]
3.	Alphanumeric	One character that is in the following range: {[A-Z], [0-9],

	Data Type	Description
	Character	-,?,:,(,),.,,,',=,/,+}
4.	Alphanumeric String	<p>String of characters that are in the following range: {[A-Z], [0-9], -,?,:,(,),.,,,',=,/,+}</p> <p>NOTE: Throughout the Data Dictionary the reader might encounter the concept of “free form text”. This is simply an alphanumeric string containing unstructured words and sentences</p>
5.	Altitude	<p>The altitude can be expressed in two ways:</p> <p>Flight Level. A Flight Level (FL) is a standard nominal altitude of an aircraft, calculated from the International standard pressure datum of 1013.25 hPa (29.92 inches in Hg), the average sea-level pressure. It is not necessarily the same as the aircraft's true altitude, either above mean sea level or above ground level.</p> <p>Altitude. This is the real altitude of the plane calculated by the aircraft, by measuring the air pressure and adjusting it for the local air pressure.</p> <p>Both Flight Level and Altitude can be expressed in meters or feet</p>
6.	Boolean	This data type has one of two values (usually denoted true and false), intended to provide the truth value of a state represented by the data element (e.g., if the “Flight Plan Accepted” data element has the value true , it signifies that the flight plan was accepted)
7.	Complex	This data type is a combination of two or more other data types and is associated with data elements that are composed of multiple parts
8.	Date Time	<p>Represents a specific instance of time (including the date)</p> <p>The pattern for this data type is CCYY-MM-DDThh:mm:ss where CC represents the century, YY the year, MM the month, and DD the day, preceded by an optional leading negative (-) character to indicate a negative number. If the negative character is omitted, positive (+) is assumed. The T is the date/time separator and hh, mm, and ss represent hour, minute, and second respectively. Additional digits can be used to increase the precision of fractional seconds, if desired. For example, the format ss.ss... with any number of digits after the decimal point is supported. Specifying fractions of a second is optional.</p> <p>This representation may be immediately followed by a "Z" to indicate Coordinated Universal Time (UTC) or to indicate the time zone. For example, the difference between the local time and Coordinated Universal Time, immediately</p>

	Data Type	Description
		followed by a sign, + or -, followed by the difference from UTC represented as hh:mm (minutes is required). If the time zone is included, both hours and minutes must be present
9.	Enumeration	<p>This data type represents one or multiple choices from a finite, predefined and controlled vocabulary.</p> <p>NOTE: In this document, whenever the 'Enumeration' data type is used, the controlled vocabulary is specified in the 'Range of Values' field, whenever practicable. If the enumeration is too large to be included explicitly, a reference is provided.</p>
10.	Float	Represents single-precision 32-bit floating-point numbers
11.	Integer	Represents an integer number
12.	Location	<p>This data type describes a geographic location. For the purposes of FIXM, the location can be defined in any of the following ways:</p> <ol style="list-style-type: none"> 1. Location Identifier. The location is identified by a predefined 3-4 character long string. This string can be either an aerodrome code or a fix name. Aerodrome codes are published in document ICAO Document 7910 and FAA Order JO 7350.8T. U.S. fix names are published in document FAA Order JO 7350.8T. 2. Latitude/Longitude. The location is defined by a pair of latitude and longitude coordinates 3. Fix-radial-distance. The location is defined by three values: a navigation aid identifier (typically a VOR), a magnetic heading, and a distance. Typically, the distance is expressed in nautical miles
13.	Numeric Character	One numeric character in the range [0-9]
14.	Numeric String	String of numeric characters in the range [0-9]
15.	Time Interval	<p>Represents duration of time.</p> <p>The pattern for duration is PnYnMnDTnHnMnS, where nY represents the number of years, nM the number of months, nD the number of days, T the date/time separator, nH the number of hours, nM the number of minutes, and nS the number of seconds.</p>

4 Dictionary Metadata

Version	1.0
Date	06/27/2012
Author	Booz Allen Hamilton
Description of Changes	Incorporated final updates from stakeholder feedback and updated with minor editorial changes.

5 Change Log

The table below provides traceability between the data elements in this version and data elements in the previous one. The intent of this section is to provide a quick reference of changes without a detailed account of the reasons for the changes.

FIXM DD v0.92	Action	Current - FIXM DD v1.0
Aircraft Common Mark	Renamed and Merged	Aircraft Registration Mark
Aircraft CPDLC Address	Renamed	Aircraft Address
Aircraft Registration Nationality	Renamed and Merged	Aircraft Registration Mark
ATS Route Designator	Renamed	Airway
Boundary Crossing Level - Limit	Renamed	Boundary Crossing Level - Transition
Boundary Crossing Point - Inbound	Renamed	Boundary Crossing Point
Center to Center External Remarks	Renamed	Inter-Facility Remarks
Change Altitude	Renamed	Change Speed and Altitude
Change Point	Renamed	Significant Point
Change Speed	Renamed	Change Speed and Altitude
Cruising Level	Renamed	Cruising Altitude - Requested
En Route Delay	Renamed	En Route Delay - Filed
ICAO Wake Turbulence Category	Renamed	Wake Turbulence Category
Performance Based Navigation Capability	Renamed	Performance Based Navigation Capabilities
--	Added	Survival Equipment Remarks

6 Data Elements

6.1 Action Taken By Reporting Unit

Action Taken By Reporting Unit	
Definition	A description of the actions taken by the reporting Air Traffic Service (ATS) unit, in the case of search and rescue
Alternate Names	ICAO Field 20g
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	[ICAO] When the information is not available, value should be NIL or NOT KNOWN
Notes	<ul style="list-style-type: none">• [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20g.• [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model.
References	<ul style="list-style-type: none">• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.2 Aircraft Address

Aircraft Address	
Definition	A code that enables the exchange of text-based messages between suitably equipped ATS ground systems and aircraft cockpit displays
Alternate Names	24-bit Address, Mode S Address
Has Parts	
Is Part Of	
Data Type	Numeric String
Range of Values	F00001 - FFFFFFFF (hexadecimal numbers)
Business Rules	Assigned in accordance with the provisions of ICAO Annex 10, Volume 3.
Notes	<ul style="list-style-type: none"> • In addition to the standard hexadecimal representation, the Aircraft Address is sometimes published in its octal or decimal representation. • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, SPL as ICAO Field Type 18, preceded by "CODE/" • [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft::24BitsAddress and FGI::OtherInformation.code
References	<ul style="list-style-type: none"> • Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. III, Communication Systems, Second Edition, 2007 • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.3 Aircraft Color and Markings

Aircraft Color and Markings	
Definition	The colors of the aircraft and a description of its significant markings
Alternate Names	Significant Markings
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.). • [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19g, preceded by "A/". This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that it can be supplied without delay when requested by ATS units. • [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.aircraft_colour and FGL::SupplementaryInformation.significant_markings
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.4 Aircraft Identification

Aircraft Identification	
<i>Definition</i>	Name used by ATS units to identify and communicate with an aircraft
<i>Alternate Names</i>	Flight Identification, Flight ID, Call sign, ACID, ICAO Field 7a
<i>Has Parts</i>	
<i>Is Part Of</i>	
<i>Data Type</i>	Alphanumeric String
<i>Range of Values</i>	N/A
<i>Business Rules</i>	

Aircraft Identification	
Notes	<ul style="list-style-type: none"> • This data element is currently used interchangeably with "Flight Identification". While current systems do not delineate between the two, they are distinct data elements in a one-to-one relationship for the duration of a flight. The Flight Object most likely will keep Aircraft Identification and Flight Identification, with the "Aircraft Identification" being closer aligned with the registration number, while the "Flight Identification" will resemble the current GUF1/TUFI. - Note that while Registration Mark is often used as an Aircraft Identification, it has a 1:1 relationship with an aircraft, whereas a call sign only has a 1:1 relationship with a flight. • [ICAO Standard ATS Messages] Transmitted in ALR, RCF, FPL, CHG, CNL, DLA, DEP, ARR, CPL, EST, CDN, ACP, RQP, RQS, and SPL as ICAO Field Type 7a. [NAS CMS] Field 02a • [ICAO] <ul style="list-style-type: none"> a) The ICAO designator for the aircraft operating agency followed by the flight identification (e.g. KLM511, NGA213, JTR25); when in radiotelephony the call sign to be used by the aircraft will consist of the ICAO telephony designator for the operating agency followed by the flight identification (e.g. KLM511, NIGERIA 213) b) The nationality or common mark and registration marking of the aircraft (e.g. EIAKO, 4XBCD, N2567GA), when: <ul style="list-style-type: none"> 1. in radiotelephony the call sign to be used by the aircraft will consist of this identification alone (e.g. CGAJS), or preceded by the ICAO telephony designator for the aircraft operating agency (e.g. BLIZZARD CGAJS); 2. the aircraft is not equipped with radio • [FAA] In lieu of (a) or (b) above, the aircraft identification may be the call sign determined by the military authorities used to identify the aircraft during flight (e.g. HUSKY41, STEEL52, and S12345) • [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::Arcid.Identifier

Aircraft Identification	
<i>References</i>	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • ICAO Doc. 8585, Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services • Annex 7 to the Convention on International Civil Aviation, 5th Edition, 2003 • Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. II, Communication Procedures including those with PANS status, Sixth Edition, 2001 • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.5

6.6 Aircraft Operator Identity

Aircraft Operator Identity	
Definition	Identity of a person, organization or enterprise engaged in or offering to engage in aircraft operation
Alternate Names	Operator
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	Per ICAO Doc. 8585 - Designators for Aircraft Agencies, Aeronautical Authorities and Services: This data element is transmitted only when the operator is not obvious or is different from what is used as the Aircraft Identification
Notes	<ul style="list-style-type: none">• [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "OPR/". Also transmitted in ALR as Field Type 20a.• [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.name_of_operator
References	<ul style="list-style-type: none">• ICAO Doc. 8585 - Designators for Aircraft Agencies, Aeronautical Authorities and Services• Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444)• Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.7 Aircraft Performance Category

Aircraft Performance Category	
Definition	A coded category assigned to the aircraft based on a speed directly proportional to its stall speed, which functions as a standardized basis for relating aircraft maneuverability to specific instrument approach procedures
Alternate Names	Aircraft Performance Data, Performance Category
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following letters: {A, B, C, D, E, H, O}
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "PER/" • [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.aircraft_performance_data • [Range of Values] The letters in the range of values represent the following: <ul style="list-style-type: none"> o A - Less than 169 km/h (91 kt) indicated airspeed (IAS) o B - 169 km/h (91 kt) or more but less than 224 km/h (121 kt) IAS o C - 224 km/h (121 kt) or more but less than 261 km/h (141 kt) IAS o D - 261 km/h (141 kt) or more but less than 307 km/h (166 kt) IAS o E - 307 km/h (166 kt) or more but less than 391 km/h (211 kt) IAS o H Helicopters o O - Other
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 • Procedures for Air Navigation Services Aircraft Operations: Flight Procedures Doc. 8168

6.8 Aircraft Quantity

Aircraft Quantity	
Definition	Number of aircraft flying in a formation in which the aircraft are governed by one flight plan
Alternate Names	Number of Aircraft, ICAO Field 9a
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[2 - 99]
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 9a [NAS CMS] Field 03a • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::NumberOfAircraft.number
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • FAA Order JO 7110.65T, Air Traffic Control-procedures and phraseology, February 2010 • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.9 Aircraft Registration Mark

Aircraft Registration Mark	
Definition	A unique alphanumeric string that identifies a civil aircraft. This is made up of the Aircraft Nationality or Common Mark and an additional alphanumeric string assigned by the state of registry or common mark registering authority
Alternate Names	Registration Number, Tail Number, Registration
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	<ul style="list-style-type: none"> The Supplement to Annex 7 to the Convention on International Civil Aviation provides the national prefixes and common marks and describes the formats for each state and common mark registering authority. Aircraft must establish registration with a national aviation authority or common mark registering authority. This data element is transmitted only when the operator is not obvious or is different from what is used as the Aircraft Identification
Notes	<ul style="list-style-type: none"> [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "REG/" [FAA] The FAA maintains an on-line aircraft registry at http://www.faa.gov/licenses_certificates/aircraft_certification/aircraft_registry/ [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> Supplement to Annex 7 to the Convention on International Civil Aviation - Aircraft Nationality and Registration Marks Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Annex 7 to the Convention on International Civil Aviation, 5th Edition, 2003 Annex 10 to the Convention on International Civil Aviation: Aeronautical Telecommunications, Vol. II, Communication Procedures including those with PANS status, Sixth Edition, 2001 Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.10 Aircraft Type

Aircraft Type	
Definition	The manufacturer and model of the airframe expressed either as an ICAO-approved designator or a text description
Alternate Names	Type of Aircraft, ICAO Field 9b
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	Valid range of identifiers described in ICAO Doc. 8643
Business Rules	Approved aircraft type designators are defined in ICAO Doc. 8643
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 9b. If no designator has been assigned or if there is more than one type of aircraft in the flight, the string "ZZZZ" is used in Item 9b. In this case, the type(s) of aircraft is (are) to be shown in Field Type 18, preceded by "TYP/" and, if necessary, the number of aircraft of the type specified. • [NAS CMS] This data element corresponds to Field 03c • [SESAR Harmonization] Element is present in SESAR 10.02.05 FO model as FGL::AircraftType.type
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 • Aircraft Type Designators - Doc. 8643

6.11 Airway

Airway	
Definition	The coded designator for a published ATS route or route segment
Alternate Names	ATS Route Designator, Track
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> An Airway can be a standard departure or arrival route designator. This data element is a type of route designator, and the composition and use of route designator codes is described in ICAO Annex 11. [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c(2)
References	<ul style="list-style-type: none"> Annex 11 to the Convention on International Civil Aviation, 13th Edition, 2001 Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.12 Arrival Aerodrome

Arrival Aerodrome	
Definition	The ICAO designator, or the name of the aerodrome, at which the flight has arrived, the arrival location identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon
Alternate Names	Arrival Airport, ICAO Field 17a
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	Aerodrome location identifiers are per ICAO Doc. 7910. If none is available for the aerodrome, this data element will be free text following standard FIXM usage for locations
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ARR as ICAO Field Type 17a. Expressed as a 4-letter ICAO location indicator. The letters "ZZZZ" are used if no indicator has been allocated to the arrival aerodrome. If the letters ZZZZ are used, the name of the arrival aerodrome is inserted in ICAO Field Type 18. • This data element is similar to Destination Aerodrome, and the two have equal values in most cases. However, they remain conceptually different as standalone data elements.
References	<ul style="list-style-type: none"> • ICAO Doc. 7910 - Location Identifiers • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.13 Arrival Time - Actual

Arrival Time - Actual	
Definition	For Instrument Flight Rules (IFR) flights, the time at which the aircraft arrived over a designated point, defined by reference aids, from which an instrument approach procedure commenced, or, if no navigation aid was associated with the aerodrome, the time at which the aircraft arrived over the aerodrome. For Visual Flight Rules (VFR) flights, the time at which the aircraft arrived over the aerodrome. The time is given in UTC (Zulu time).
Alternate Names	Time of Arrival, Actual Time of Arrival, ICAO Field 17b
Has Parts	
Is Part Of	
Data Type	Date Time
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ARR as ICAO Field Type 17b • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.14 Beacon Code

Beacon Code	
Definition	Four character numeric code transmitted by the aircraft transponder in response to a secondary surveillance radar interrogation signal that is used to assist air traffic controllers to identify aircraft
Alternate Names	Squawk Code, transponder code, Mode 3A, Mode A, ICAO Field 7c
Has Parts	
Is Part Of	
Data Type	Numeric String
Range of Values	[0000 - 7777] (expressed as octal numbers - each digit is in the range [0-7]).
Business Rules	<ul style="list-style-type: none"> Codes 7500, 7600, and 7700 are universally reserved for special purposes (e.g. indication of a hijack or other emergency) Other codes are also reserved for special purposes, under various national and international regulations
Notes	<ul style="list-style-type: none"> The discrete transponder code (often called a squawk code) is assigned by air traffic controllers to uniquely identify an aircraft Beacon Codes are four-digit octal numbers. Thus, the lowest possible squawk is 0000 and the highest is 7777 Four octal digits can represent up to 4096 different codes [ICAO Standard ATS Messages] Transmitted in ALR, RCF, FPL, CHG, CNL, DLA, DEP, ARR, CPL, EST, CDN, ACP, RQP, RQS, and SPL as ICAO Field Type 7c. [NAS CMS] This data element corresponds to Field 04a. [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as SSRCode::SSRCode.code
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 FAA Order JO 7110.66D, National Beacon Code Allocation Plan, 2009

6.15 Boundary Crossing Condition

Boundary Crossing Condition	
Definition	Indicator of whether an aircraft will cross an associated boundary crossing point at or above or at or below the altitude specified by the Boundary Crossing Level
Alternate Names	Crossing Condition, ICAO Field 14e
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {A, B}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is the following: <ul style="list-style-type: none"> A - at or above B - at or below [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14e. This data is allowed by ICAO but not used in NAS [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as CoordinationAndTransfer::CoordinationData.crossing_condition
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.16 Boundary Crossing Level - Cleared

Boundary Crossing Level - Cleared	
Definition	The cleared altitude flight level at which the aircraft will cross the boundary crossing point if in level cruising flight or, if the aircraft is climbing or descending at the boundary crossing point, the cleared flight level to which it is proceeding
Alternate Names	Cleared Level, ICAO Field 14c
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14c • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as CoordinationAndTransfer::CoordinationData.TFL. • Flight levels are pressure altitudes with respect to the pressure datum 1013.2 expressed in hecto Pascals (hPa). Altitudes are pressure altitudes with respect to local surface pressure measurements.
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.17 Boundary Crossing Level - Transition

Boundary Crossing Level - Transition	
Definition	A flight level at or above/below which (specified in Boundary Crossing Condition) an aircraft will cross the associated boundary point
Alternate Names	Supplementary Crossing Data, ICAO Field 14d
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14d • Flight levels are pressure altitudes with respect to the pressure datum 1013.2 expressed in hecto Pascals (hPa). Altitudes are pressure altitudes with respects to local surface pressure measurements. • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as CoordinationAndTransfer::CoordinationData.STFL
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.18 Boundary Crossing Point

Boundary Crossing Point	
Definition	The point where the flight will cross an ATS facility boundary
Alternate Names	ICAO Field 14a
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	Must be associated with a Boundary Crossing Time
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in CPL, and EST as ICAO Field Type 14a • [NAS CMS] This data element corresponds to Field 06 • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Coordination And Transfer::ActiveCoordination::coordination_data (Point2D)
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.19 Boundary Crossing Time

Boundary Crossing Time	
Definition	The estimated time at which a flight will cross the associated boundary crossing point. The time is given in UTC (Zulu time)
Alternate Names	Time at Boundary Point, ICAO Field 14b
Has Parts	
Is Part Of	
Data Type	Date Time
Range of Values	N/A
Business Rules	Must be associated with a Boundary Crossing Point
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in CPL and EST as ICAO Field Type 14b • [NAS CMS] This data element corresponds to Field 07d • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Coordination And Transfer::ActiveCoordination::coordination_data (time)
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.20 Change Cruise Climb

Change Cruise Climb	
Definition	The parameters of a cruise climb executed at the associated significant point. It contains the following parameters: 1. the speed to be maintained during cruise climb; 2. either the minimum and maximum levels defining the layer to be occupied during cruise climb, or the level above which cruise climb is planned
Alternate Names	Cruise Climb, ICAO Field 15c6
Has Parts	Speed, Minimum Altitude, Maximum Altitude, Above Altitude
Is Part Of	
Data Type	Complex
Range of Values	Speed: [0-2200] if expressed in knots, [0-4000] if expressed in km/h, [0-3.8] if expressed in mach. Altitude: [0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
Business Rules	This data element is always associated with a Significant Point data element
Notes	<ul style="list-style-type: none"> [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c6
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.21 Change Flight Rules

Change Flight Rules	
Definition	The planned flight rules the aircraft will change to upon reaching the associated Significant Point along its Route
Alternate Names	Indicator, ICAO Field 15c5
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {IFR, VFR, DCT}
Business Rules	This data element is always associated with a "Significant Point" data element
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c(5) • The significance of the values is the following: <ul style="list-style-type: none"> o "VFR" if a change to VFR is to be made at the associated Change Point o "IFR" if a change to IFR is to be made at the associated Change Point o "DCT" if the flight to the next point will be outside a designated route, unless both points are defined by geographical coordinates or by bearing and distance
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.22 Change Speed and Altitude

Change Speed and Altitude	
Definition	The planned speed and altitude that the aircraft will change to upon reaching the associated Significant Point along its Route
Alternate Names	Change of Speed, Change of Level, ICAO Field 15c4
Has Parts	Speed, Altitude
Is Part Of	
Data Type	Complex
Range of Values	Speed: [0-2200] if expressed in knots, [0-4000] if expressed in km/h, [0-3.8] if expressed in mach. Altitude: [0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
Business Rules	This data element is always associated with a Significant Point data element
Notes	<ul style="list-style-type: none"> [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c4
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.23 Communications Capabilities

Communications Capabilities	
Definition	The serviceable communications equipment, available on the aircraft at the time of flight, and associated flight crew qualifications that may be used to communicate with ATS units
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Enumeration or alphanumeric string
Range of Values	One or more of the following values (if enumeration): {N, S, E1, E2, E3, H, M1, M2, M3, P1, P2, P3, P4, P5, P6, P7, P8, P9, U, V, Y}
Business Rules	Standard equipment is VHF RTF, unless another set is prescribed by the appropriate ATS authority
Notes	<ul style="list-style-type: none"> This data element can contain either free-form text or a combination of the following ICAO codes for communication capabilities: <ul style="list-style-type: none"> N - No serviceable communication equipment for the route flown S - Standard equipment for the route flown. This is VHF RTF unless another set is prescribed by the appropriate ATS authority. E1 - FMC WPR ACAR E2 - D-FIS ACARS E3 - PDC ACARS H - HF RTF M1 - ATC RTF SATCOM (INMARSAT) M2 - ATC RTF (MTSAT) M3 - ATC RTF (Iridium) P1-P9 - reserved for RCP U - UHF RTF V - VHF RTF Y - ATS VHF w/ 8.33 kHz channel spacing capability [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10a, or transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "COM/". If transmitted as Field Type 18, the letter "Z" is used in Item 10a [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::OtherInformation.communication_equipment

Communications Capabilities	
<i>References</i>	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.24 Cruising Altitude - Requested

Cruising Altitude - Requested	
Definition	The filed flight level for the first or the whole cruising portion of the flight
Alternate Names	Requested Cruising Level, ICAO Field 15b
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[0-130,000] if expressed in feet, [0 - 40,000] if expressed in meters
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15b. This value represents the first cruising portion if there are level changes in 15c; otherwise, it represents the level for the whole cruising portion • [NAS CMS] This data element corresponds to Field 09 • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::ICAORoute
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.25 Cruising Speed

Cruising Speed	
Definition	The filed true air speed for the first or the whole cruising portion of the flight
Alternate Names	Mach Number, ICAO Field 15a
Has Parts	
Is Part Of	
Data Type	Float
Range of Values	[0-2200.00] if expressed in knots, [0-4000.00] if expressed in km/h, [0-3.8] if expressed in Mach
Business Rules	[FAA] Under U.S. rules, the cruising speed could be classified under certain situations. Please see the FIXM NAS extensions for more details.
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15a. If multiple cruising speeds are needed to describe the route in an unambiguous manner (see ICAO PANS-ATM), these can be expressed using Change Points. • [NAS CMS] This data element corresponds to Field 05 • [SESAR Harmonization]: Element is present in the SESAR 10.02.05 FO model as FGI::ICAORoute. In SESAR, there is a cleared_speed within the Provided_Clearances within the Flight_Script
References	<ul style="list-style-type: none"> • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.26 Data Link Communication Capabilities

Data Link Communication Capabilities	
Definition	The serviceable equipment and capabilities, available on the aircraft at the time of flight, that may be used to communicate data to and from the aircraft
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one or more of the following values: {J1, J2, J3, J4, J5, J6, J7}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> J1 - CPDLC ATN VDL Mode 2 J2 - CPDLC FANS 1/A HFDL J3 - CPDLC FANS 1/A VDL Mode A J4 - CPDLC FANS 1/A VDL Mode 2 J5 - CPDLC FANS 1/A SATCOM (INMARSAT) J6 - CPDLC FANS 1/A SATCOM (MTSAT) J7 - CPDLC FANS 1/A SATCOM (Iridium) S - satellite data link H - HF data link V - VHF data link M - SSR Mode S data link [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10a, or transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "DAT/". If transmitted as Field Type 18, "Z" is inserted in item 10a [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.datalink_capabilities
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.27 Departure Aerodrome

Departure Aerodrome	
Definition	The ICAO designator of the aerodrome from which the flight departs, or, if no ICAO designator is available, the name of the departure airport or point of origin for the flight, or the departure location identified either as a named fix, a pair of latitude/longitude coordinates, bearing and distance from the nearest significant point, or a marker radio beacon
Alternate Names	Departure Airport
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	[FAA] In the case of field 18, Name or location identifier for an airport is entered, followed by location of the airport. If there is a location identifier published in the Aeronautical Information Publications (AIP) for the airport, but not in ICAO Doc. 7910, then the location is optional. If AFIL was filed, then no location is required but may be present; in any case, the automation can treat this as free text.
Notes	<ul style="list-style-type: none"> [FAA] Not all 4-letter identifiers in the United States have been published in ICAO Doc. 7910. Therefore, location identifiers may be per national Aeronautical Information Publications (AIP). [ICAO Standard ATS Messages] If the Departure Aerodrome is expressed as a four character ICAO location indicator (as described in ICAO 7910), it is populated in field 13a of the Flight Plan, and transmitted in all standard ATS messages except RCF and LAM. If it is expressed in any other format, the string "ZZZZ" is inserted in field 13a, and the Departure Aerodrome information is inserted in field 18 (transmitted in ALR, FPL, CPL, and SPL), preceded by the string "DEP/". If the flight plan is filed while the aircraft is in flight, the string AFIL is inserted in field 13a, and the four-letter ICAO location indicator of the ATS unit from which supplementary flight plan data can be obtained is inserted in field 18, preceded by the string DEP/. [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::OtherInformation.departure_aerodrome and FGL::FlightPlan.ref_id_departure_aerodrome

Departure Aerodrome	
<i>References</i>	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 • ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010

6.28 Departure Time - Estimated

Departure Time - Estimated	
Definition	The estimated off-block time for the flight at the Departure Aerodrome, or, if the flight plan is filed in the air, the estimated time of departure from the first point on the route. The time is given in UTC (Zulu time).
Alternate Names	Estimated Off-Block Time
Has Parts	
Is Part Of	
Data Type	Date Time
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • This data element can be used to communicate a revised departure time due to a delay • [ICAO Standard ATS Messages] This data element is a combination of ICAO Field Type 13b (time) and 18 DOF/ (date). Currently, the ICAO FPL allows specification of the date of flight through a 2 digit prefix to the departure time. The time is transmitted in FPL and DLA messages transmitted before departure and in CHG, CNL, ARR, and RQP messages, if known, as ICAO Field Type 13b. The date is transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "DOF/" • [NAS CMS] This data element corresponds to Field 07d • [SESAR Harmonization] The departure date is present in the SESAR 10.02.05 FO model as FGI::EstimatedOffBlockDate and FGI::EstimatedOffBlockTime
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.29 Destination Aerodrome

Destination Aerodrome	
Definition	The ICAO designator or the name of the aerodrome at which the flight is scheduled to arrive, the destination location identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon
Alternate Names	Destination Airport, ICAO Field 16a
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	Per ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010, NNN should not be used as the second, third and fourth letters of a location indicator such as the name of the destination aerodrome
Notes	<ul style="list-style-type: none"> • This data element is similar to Arrival Aerodrome, and the two have equal values in most cases. However, they remain conceptually different as standalone data elements • [ICAO Standard ATS Messages] Transmitted in all Standard ATS Messages except RCF and LAM as ICAO Field Type 16a. If "ZZZZ" is used in 16a (in cases where no ICAO location indicator has been allocated for the aerodrome), the name of the destination aerodrome is transmitted as Field Type 18, preceded by "DEST/". This is transmitted in ALR, FPL, CPL, and SPL • [FAA] Order JO 7350.8 contains valid airport designators, and the Aeronautical Information Publication (AIP) contains the U.S. airports designated to handle international operations • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::FlightPlan.ref_id_destination_aerodrome and FGI::OtherInformation.destination_aerodrome
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 • ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010

6.30 Destination Aerodrome - Alternate

Destination Aerodrome - Alternate	
Definition	ICAO designator or the name of an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the original destination aerodrome, or an alternate destination location identified either as a named fix or a pair of latitude/longitude coordinates, a bearing and distance from the nearest significant point, or a marker radio beacon
Alternate Names	Destination Alternate Aerodrome, Alternate Airport, ICAO Field 16c
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	Per ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010, NNN should not be used as the second, third and fourth letters of a location indicator such as the name of the destination aerodrome
Notes	<ul style="list-style-type: none"> [ICAO Standard ATS Messages] Transmitted in all Standard ATS Messages except RCF and LAM as ICAO Field Type 16c. If "ZZZZ" is used in 16c (in cases where no ICAO location indicator has been allocated for the aerodrome), the name of the alternate aerodrome is transmitted in ALR, FPL, CPL, and SPL as Field Type 18, preceded by "ALTN/" [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.ref_id_alternative_destination_aerodromes and FGL::OtherInformation.alternate_destination_aerodromes
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010

6.31 Dinghy Color

Dinghy Color	
Definition	The color of the dinghies carried by the aircraft
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	[AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/" • [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units • [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service [wherever the flight plan is entered (e.g. FSS, DUATS, AOC, etc.)] • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::Dinghies.colour [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message.
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.32 Dinghy Cover Status

Dinghy Cover Status	
Definition	Indication of the covered/uncovered nature of the dinghies carried by the aircraft
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {C, U}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the value is as follows: <ul style="list-style-type: none"> U - uncovered C - covered [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.) [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/" [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message. [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::Dinghies.are_covered
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.33 Dinghy Quantity

Dinghy Quantity	
Definition	The number of dinghies carried by the aircraft.
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[0-99]
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units • [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service [wherever the flight plan is entered (e.g. FSS, DUATS, AOC, etc.) • [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/" • [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message. • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::Dinghies.number
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.34 Dinghy Total Capacity

Dinghy Total Capacity	
Definition	The total number of persons that can be accommodated by the dinghies carried on board the aircraft
Alternate Names	Total Capacity
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[0-999]
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units • [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service [wherever the flight plan is entered (e.g. FSS, DUATS, AOC, etc.)] • [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19f, preceded by "D/" • [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message. • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::Dinghies.total_capacity
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.35 Emergency Description

Emergency Description	
Definition	A short, plain-language description of the nature of the emergency
Alternate Names	Nature of Emergency, Description of Emergency, ICAO Field 5c
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 5c • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData.emergency_description
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.36 Emergency Message Originator

Emergency Message Originator	
Definition	The ICAO identifier of the ATS unit originating the emergency message
Alternate Names	Originator of Message, ICAO Field 5b
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	ATS unit identifier values are published in ICAO Doc. 7910
Business Rules	Reference ICAO Doc. 7910 for 4-letter location indicators.
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 5b • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO but has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • ICAO Doc. 7910 - Location Identifiers • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.37 Emergency Phase

Emergency Phase	
Definition	Stage of emergency that the flight is currently under (uncertainty, alert, or distress), as designated by an ATS unit
Alternate Names	ICAO Field 5a
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {INCERFA, ALERFA, DETRESFA}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> INCERFA - uncertainty phase ALERFA - alert phase DETRESFA - distress phase [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 5a [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.38 Emergency Radio Transmitter Type

Emergency Radio Transmitter Type	
Definition	The type of serviceable communication devices available on the aircraft that is able to transmit an emergency radio signal
Alternate Names	Emergency, Communication Mode Type Code
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one or more of the following values: {U, V, E}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> U - UHF (243.0 MHz) V - VHF (121.5 MHz) E - ELT [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service (wherever the flight plan is entered... e.g. FSS, DUATS, AOC, etc.) [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19c, preceded by "R/" [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.frequency_availability
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.39 En Route Alternate Aerodrome

En Route Alternate Aerodrome	
Definition	An ICAO designator of the aerodrome (identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon) to which a flight could be diverted to while en route, if needed
Alternate Names	Enroute Alternate, Enroute Alternates
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as Field Type 18, preceded by "RALT/" • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.enroute_alternate_aerodromes
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.40 En Route Delay - Filed

En Route Delay - Filed	
Definition	The length of time that the flight is expected to be delayed at a specific point en route
Alternate Names	Delay (at a fix)
Has Parts	
Is Part Of	
Data Type	Time Duration
Range of Values	N/A
Business Rules	This data element must be used in combination with a Significant Point.
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "DLE/". Note that ICAO cannot represent enroute delays larger than 24 hours • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.41 Estimated Elapsed Time

Estimated Elapsed Time	
Definition	The estimated amount of time from takeoff to reach a significant point or Flight Information Region (FIR) boundary
Alternate Names	EET
Has Parts	
Is Part Of	
Data Type	Time Duration
Range of Values	N/A
Business Rules	This data element is always used in combination with a Significant Point
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by EET/ • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO but has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.42 Flight Plan Accepted

Flight Plan Accepted	
Definition	Indicates acceptance of the flight plan by the appropriate ATS authority
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Boolean
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.). HOST/ERAM only uses the route information (i.e. fields 1-11 for NAS FPs, and fields 3-18 for ICAO FPs) An FO could exist before the flight plan is accepted (expressing flight plan intent). This element could be useful, if multiple flight plans are associated with an intended flight
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.43 Flight Plan Filer

Flight Plan Filer	
Definition	The name of the unit, agency or person filing the flight plan
Alternate Names	Filed by
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay
Notes	<ul style="list-style-type: none"> [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.44 Flight Plan Originator

Flight Plan Originator	
Definition	The originator's eight-letter Aeronautical Fixed Telecommunication Network (AFTN) address, or other appropriate contact details, in cases where the originator of the flight plan may not be readily identified
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	The range of values for the 4-letter location identifiers is published in ICAO Doc. 7910, 3-letter designators are published in ICAO Doc. 8585.
Business Rules	This data element is comprised of a four-letter ICAO location indicator, followed by three letters identifying the organization or service address, followed by one letter identifying the department or division within the organization addressed. If a specific one-letter identifier is not required, the letter X is used as the final character.
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "ORGN/" • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO but has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • ICAO Doc. 8585, Designators for Aircraft Operating Agencies, Aeronautical Authorities and Service • ICAO Doc. 7910: Location Indicators, Edition No. 138, 2010 • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.45 Flight Rules

Flight Rules	
Definition	The regulation, or combination of regulations, that governs all aspects of operations, under which the pilot plans to fly
Alternate Names	ICAO Field 8a
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {I, V, Y, Z}
Business Rules	May be changed by Change Flight Rules (ICAO Item 15c5)
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> I - Instrument Flight Rules (IFR) V - Visual Flight Rules (VFR) Y - IFR first Z - VFR first [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 8a [NAS] Flight rules are indicated in the altitude field and/or in the route field [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.flight_rules
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) FAA Order JO 7110.65T, Air Traffic Control-procedures and phraseology, February 2010 Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.46 Flight Type

Flight Type	
Definition	Indication of the rule under which an air traffic controller provides categorical handling of a flight
Alternate Names	Type of Flight, ICAO Field 8b
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {M, G, N, X, S}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> o M - Military o G - General Aviation o N - Non-schedule air transport o X - Other o S - Scheduled air service [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL, populated in Field 8b [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.flight_type.
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.47 Fuel Endurance

Fuel Endurance	
Definition	The estimated maximum length of time the aircraft can spend in cruising flight, determined by the amount of fuel at takeoff
Alternate Names	Endurance
Has Parts	
Is Part Of	
Data Type	Time Duration
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied, without delay, when requested by ATS units • [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay • [ICAO Standard ATS Messages] Fuel Endurance is transmitted in the ICAO SPL and ALR messages as ICAO Field Type 19a, preceded by "E/". • [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.fuel_endurance
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.48 Globally Unique Flight Identifier

Globally Unique Flight Identifier	
Definition	A reference that uniquely identifies a specific flight and that is independent of any particular system
Alternate Names	GUFI, Flight ID, Flight Identifier
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> Per the Engineering Analysis of the Globally Unique Flight Identifier, Construct 2.0, March 2011, every flight data transaction includes the GUFI The GUFI is a string consisting of four alphanumeric fields separated by the period character: <ol style="list-style-type: none"> Field 1: Globally unique, predefined country or region code. 2 to 10 characters. Examples: us, euro. Field 2: Unique organization code. Can be any unique flight operator code, such as a tail number. 2 to 10 characters. Must be unique within the given country or region. Examples: faa, tfms, ual, N1745B. Field 3: Date-time that the identifier was created. 20 characters, in FIXM format. (to seconds, Z time) Multiple GUFIs for the same country and organization code may have the same date-time, as long as they are differentiated by the fourth field. Example: 2012-05-12T17:43:22Z Field 4: Sequence number. An integer from 1 to 999999, or any other unique string that can differentiate between GUFIs whose fields 1-3 is identical. In other words, if more than one GUFI is generated during the same second using the same country and organization code, they must each have a different sequence number. Example: 1,2,3 [SESAR Harmonization] Element is not present in SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model

Globally Unique Flight Identifier	
<i>References</i>	<ul style="list-style-type: none"> • Engineering Analysis of the Globally Unique Flight Identifier, Construct 2.0, March 2011

6.49 Inter-Facility Remarks

Inter-Facility Remarks	
Definition	Plain language remarks passed between ATS units with the purpose of providing additional information about the flight (e.g. requested flight level changes after takeoff)
Alternate Names	Remarks
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "RMK/" • [NAS CMS] This data element corresponds to Field 11 • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.other_remarks
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.50 Last Contact Radio Frequency

Last Contact Radio Frequency	
Definition	The transmitting / receiving frequency of the last two-way contact between the aircraft and an ATS unit
Alternate Names	Frequency of Last Contact, ICAO Field 20d, ICAO Field 21b
Has Parts	
Is Part Of	
Data Type	Float
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20d, or in RCF as ICAO Field Type 21b. If the information is not available, value should be NIL or NOT KNOWN • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData.frequency_of_last_contact
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.51 Last Contact Time

Last Contact Time	
Definition	The time of the last two-way contact between the aircraft and an ATS unit. The time is given in UTC (Zulu time).
Alternate Names	Time of Last Two-way Contact, ICAO Field 20c, ICAO Field 21a
Has Parts	
Is Part Of	
Data Type	Date Time
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20c, or in RCF as ICAO Field Type 21a. If the information is not available, value should be NIL or NOT KNOWN • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData.time_of_last_two_way_contact
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.52 Last Contact Unit

Last Contact Unit	
Definition	The last ATS unit which had two-way contact with the aircraft
Alternate Names	Unit Which Made Last Contact, ICAO Field 20b
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	ATS unit indicators are published in ICAO Doc. 7910
Business Rules	Per ICAO Doc. 7910 - Location Identifiers, the first letter shall be the letter assigned to the routing area within which the location is situated. The second letter shall be the letter assigned to the state or territory. The third letter should be assigned to assist in the process of routing to that communication center. States assigned the letter N should arrange their specific four-letter locations so as to avoid the use of the combination NN for the third and fourth letters.
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20b. If the information is not available, value should be NIL or NOT KNOWN • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model.
References	<ul style="list-style-type: none"> • ICAO Doc. 7910 - Location Identifiers • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.53 Last Known Position Report

Last Known Position Report	
Definition	The position of the aircraft last known to ATS and a corresponding timestamp
Alternate Names	Last Reported Position, ICAO Field 20e
Has Parts	Location, Date Time
Is Part Of	
Data Type	Complex
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • This is a compound data element. It has both a position component and a time component • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20e. The ICAO field 20e contains both the last reported position and the time over that position. When used in the ICAO FPL field 20, if the information is not available, value should be NIL or NOT KNOWN. Also transmitted in RCF as ICAO Field Type 21c (position) and 21d (time) • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as Aircraft ::EmergencyData. last_reported_position & Aircraft ::EmergencyData. time_at_last_reported_position
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.54 Last Known Position Report - Determination Method

Last Known Position Report - Determination Method	
Definition	A plain-language description of the method used to determine the last known position of an aircraft
Alternate Names	Method of Determining Last Known Position, ICAO Field 20f
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20f. When used in the ICAO FPL field 20, if the information is not available, value should be NIL or NOT KNOWN • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.55 Life Jacket Type

Life Jacket Type	
Definition	The type of life jackets available on board the aircraft
Alternate Names	Jackets
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one or more of the following values: {L, F, U, V}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> L - lights F - fluorescein U - UHF frequency 243.0MHz V - VHF frequency 121.5MHz [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. Supplementary information is stored with the flight planning service (wherever the flight plan is entered e.g. FSS, DUATS, AOC, etc.) [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19e, preceded by "J/" [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::LifeJacketEquipment
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.56 Navigation Capabilities

Navigation Capabilities	
Definition	The serviceable navigation equipment, available on board the aircraft at the time of flight, and for which the flight crew is qualified
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Enumeration or alphanumeric string
Range of Values	One or more of the following values (if enumeration): {N, S, A, B, C, D, F, G, I, K, L, O, T, W, X}
Business Rules	

Navigation Capabilities	
Notes	<ul style="list-style-type: none"> The meanings of the values are as follows: <ul style="list-style-type: none"> N - no NAV/approach aid equipment for the route to be flown is carried, or the equipment is unserviceable S - standard NAV/approach aid equipment for the route to be flown is carried and serviceable. This is VOR & ILS unless another set is prescribed by the appropriate ATS authority A - GBAS B - LPV C - LORAN C D - DME F - ADF G - GNSS I - Inertial Navigation K - MLS L - ILS O - VOR T - TACAN W - RVSM X - MNPS [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10a, combined with Communications Capabilities. If navigation capabilities other than those included in the range of values or specific in PBN/ need to be indicated, they are transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18 preceded by "NAV/" and "Z" is used in Item 10a. GNSS augmentation is also indicated as Field Type 18 preceded by "NAV/", and "G" is used in item 10a in this case [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::EquipmentCapabilityandStatus and as FGL::OtherInformation.navigation_equipment
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.57 Number of Persons on Board

Number of Persons on Board	
Definition	The total number of persons (passengers and crew) on board the aircraft
Alternate Names	Persons on Board, Souls on Board
Has Parts	
Is Part Of	
Data Type	Integer
Range of Values	[0-999]
Business Rules	
Notes	<ul style="list-style-type: none"> Currently, the data is obtained manually and is required by letters of agreement between airport authorities and the FAA [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19b, preceded by "P/" [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.number_of_persons
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.58 Other Search and Rescue Information

Other Search and Rescue Information	
Definition	Other pertinent information not captured elsewhere needed to notify appropriate organizations regarding aircraft in need of search and rescue
Alternate Names	Other pertinent information, ICAO Field 20h
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR as ICAO Field Type 20h. When used in the ICAO FPL field 20, if the information is not available, value should be NIL or NOT KNOWN • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in SESAR model
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.59 Performance-Based Navigation Capabilities

Performance-Based Navigation Capabilities	
Definition	A coded category denoting which Required Navigation Performance (RNP) and Area Navigation (RNAV) requirements can be met by the aircraft while operating in the context of a particular airspace when supported by the appropriate navigation infrastructure
Alternate Names	PBN
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	Up to 8 of the following values: {A1, B1, B2, B3, B4, B5, B6, C1, C2, C3, C4, D1, D2, D3, D4, L1, O1, O2, O3, O4, S1, S2, T1, T2}
Business Rules	

Performance-Based Navigation Capabilities	
Notes	<ul style="list-style-type: none"> The meanings of the values are as follows: <ul style="list-style-type: none"> A1 - RNAV 10 (RNP 10) B1 - RNAV 5 all permitted sensors B2 - RNAV 5 GNSS B3 - RNAV 5 DME/DME B4 - RNAV 5 VOR/DME B5 - RNAV 5 INS OR IRS B6 - RNAV 5 LORAN-C C1 - RNAV 2 all permitted sensors C2 - RNAV 2 GNSS C3 - RNAV 2 DME/DME C4 - RNAV 2 DME/DME/IRU D1 - RNAV 1 all permitted sensors D2 - RNAV 1 GNSS D3 - RNAV 1 DME/DME D4 - RNAV 1 DME/DME/IRU L1 - RNP 4 O1 - Basic RNP 1 all permitted sensors O2 - Basic RNP 1 GNSS O3 - Basic RNP 1 DME/DME O4 - Basic RNP 1 DME/DME/IRU S1 - RNP APCH S2 - RNP APCH with barometric vertical navigation T1 - RNP AR APCH with RF (authorization required) T2 - RNP AR APCH without RF (authorization required) [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "PBN". The letter "R" is included in ICAO Field Type 10a, transmitted in ALR, FPL, and CPL, to indicate that performance based navigation levels are specified in Item 18 [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.60 Pilot In Command

Pilot In Command	
Definition	The name of the pilot in command of the aircraft
Alternate Names	PIC
Has Parts	
Is Part Of	
Data Type	Alpha String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units • [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.pilot_name • [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19i, preceded by "C/" • [AFTN] When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.61 Radio Failure Remarks

Radio Failure Remarks	
Definition	Pertinent information needed to notify appropriate organizations regarding loss of radio communication capabilities
Alternate Names	Any Necessary Remarks, ICAO Field 21f
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in RCF as ICAO Field Type 21f. If the information is not available, value should be NIL or NOT KNOWN • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.62 Remaining Communication Capabilities

Remaining Communication Capabilities	
Definition	The remaining communication capability of the aircraft following radio failure
Alternate Names	Remaining COM Capability, ICAO Field 21e
Has Parts	
Is Part Of	
Data Type	Enumeration or alphanumeric string
Range of Values	one or more of the following values (if enumeration): {N, S, E1, E2, E3, H, M1, M2, M3, P1, P2, P3, P4, P5, P6, P7, P8, P9, U, V, Y}
Business Rules	
Notes	<ul style="list-style-type: none"> This data element can contain either free form text or a combination of the following ICAO codes for communication capabilities: <ul style="list-style-type: none"> N - No serviceable communication equipment for the route flown S - Standard equipment for the route flown (VHF RTF) E1 - FMC WPR ACAR E2 - D-FIS ACARS E3 - PDC ACARS H - HF RTF M1 - ATC RTF SATCOM (INMARSAT) M2 - ATC RTF (MTSAT) M3 - ATC RTF (Iridium) P1-P9 - reserved for RCP U - UHF RTF V - VHF RTF Y - ATS VHF w/ 8.33 kHz channel spacing capability [ICAO Standard ATS Messages] Transmitted in RCF as ICAO Field Type 21e. When the information is not available, the value should be NIL or NOT KNOWN [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.63 Route

Route	
Definition	The ICAO route string as depicted from the flight plan.
Alternate Names	ICAO Field 15c
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [NAS] In the NAS FPL, field 15 captures the route as well as the cruising speed and level. The optional [SID] and [STAR] are expressed by the Airway data element • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c • [NAS CMS] This data element corresponds to Field 10 • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::ICAORoute
References	<ul style="list-style-type: none"> • FAA ICAO Flight Planning Interface Reference Guide ver 1.3, May 2008 • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.64 Route - Revised Destination

Route - Revised Destination	
Definition	The route from the current location to the revised destination aerodrome
Alternate Names	Revised Route
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "RIF/" • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.reclearance_in_flight. The revised route is subject to re-clearance in flight
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.65 Selective Calling Code

Selective Calling Code	
Definition	A code which consists of two 2-letter pairs and acts as a paging system for an ATS unit to establish voice communications with the pilot of an aircraft
Alternate Names	SELCAL Code
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	[A-S] excluding {I, N, O}
Business Rules	Selcal codes use letters [A-S] excluding I, N, and O. Duplicate letters, in the same pair, are not allowed. The succeeding letter, in the same pair, must be higher than the preceding one. Aviation Spectrum Resources (ASRI) is the registrar and issuer of selcal codes worldwide. Used during HF communications when aircraft are overflying large unpopulated areas such as oceans and deserts.
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "SEL/" • [SESAR harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::OtherInformation.selcal_code. This code is permanently assigned to individual aircraft. Selective calling is mostly used by Oceanic Enroute Facilities
References	<ul style="list-style-type: none"> • Aviation Spectrum Resources, Inc. Selective Calling (SELCAL) Users Guide • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.66 Significant Point

Significant Point	
Definition	The point where a Change of Speed and Altitude/Flight Rules/Cruise Climb is planned to take place
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	This data element is associated with “Change Speed and Altitude”, “Change Flight Rules”, or “Change Cruise Climb”
Notes	<ul style="list-style-type: none"> [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 15c3
References	<ul style="list-style-type: none"> Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.67 Special Handling Reason

Special Handling Reason	
Definition	A property of the flight which requires ATS units to give it special consideration
Alternate Names	Reason for Special Handling
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {ALTRV, ATFMX, FFR, FLTCK, HAZMAT, HEAD, HOSP, HUM, MARSA, MEDEVAC, NONRVSM, SAR, STATE}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> ALTRV - operated IAW altitude reservation ATFMX - approved for exemption from ATFM measures by ATS authority FFR - fire fighting FLTCK - flight check for calibration of NAVAIDs HAZMAT - carrying hazardous material HEAD - Head of State status HOSP - medical flight declared by medical authorities HUM - on humanitarian mission MARSA - military entity assumes responsibility for separation of military aircraft MEDEVAC - life critical medical emergency evacuation NONRVSM - non-RVSM capable flight intending to operate in RVSM airspace SAR - engaged in search and rescue mission STATE - engaged in military, customs or police services [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "STS/" [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::OtherInformation.reason_for_special_handling
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.68 Surveillance Capabilities

Surveillance Capabilities	
Definition	The serviceable Secondary Surveillance Radar (SSR) and/or Automatic Dependent Surveillance (ADS) equipment, available on the aircraft at the time of flight, that may be used to identify and/or locate the aircraft
Alternate Names	Surveillance Equipment, ICAO Field 10b
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one or more of the following values: {A, B1, B2, C, D1, G1, E, H, I, L, P, S, U1, U2, V1, V2, X}
Business Rules	

Surveillance Capabilities	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> A - Transponder-Mode A (4 digits-4,096 codes) B1 - ADS-B with dedicated 1090 MHz ADS-B out capability, B2 - ADS-B with dedicated 1090 MHz ADS-B out and in capability C - Transponder-Mode A (4 digits-4,096 codes) and Mode C D1 - ADS-C with FANS 1/A capabilities G1 - ADS-C with ATN capabilities E - Transponder Mode S including aircraft identification, pressure-altitude, and extended squitter capability (ADS-B), H - Transponder Mode S including aircraft identification, pressure-altitude, and enhanced surveillance capability, I - Transponder Mode S including aircraft identification, but no pressure-altitude capability, L - Transponder Mode S including aircraft identification, pressure-altitude, extended squitter, and enhanced surveillance capability P - Transponder Mode S including pressure-altitude, but no aircraft identification capability S - Transponder-Mode S, including both pressure-altitude and aircraft identification transmission U1 - ADS-B out capability using UAT U2 - ADS-B out and in capability using UAT V1 - ADS-B out capability using VDL mode 4 V2 - ADS-B in and out capability using VDL mode 4 X - Transponder Mode S with neither aircraft identification nor pressure-altitude capability [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 10b. Additional surveillance capabilities that cannot be listed here are transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by SUR/ [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SurveillanceEquipment
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.69 Survival Equipment Remarks

Survival Equipment Remarks	
Definition	Other survival equipment carried on the aircraft, and any other useful remarks regarding survival equipment
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Alphanumeric String
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19h, preceded by "N/" • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::SupplementaryInformation.Other_SurvivalEquipment
References	<ul style="list-style-type: none"> • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.70 Survival Equipment Type

Survival Equipment Type	
Definition	The type of equipment carried onboard the aircraft that can be used by the crew and passengers to assist survival in harsh environments in case of emergency
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one or more of the following values: {P, D, M, J}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> P - polar survival equipment D - desert survival equipment M - maritime survival equipment J - jungle survival equipment [ICAO] Since this data is not part of the filed flight plan, it must be made available by the operator, so that it can be supplied without delay when requested by ATS units [FAA] This information is part of the supplementary flight plan data and shall be kept readily available by the operator at the departure aerodrome or another agreed location, so that, on request by ATS units, it can be supplied without delay. When transmitted by the AFTN (aeronautical fixed telecommunications network), the message shall be assigned the same priority indicator as that in the request message. Supplementary information is stored with the flight planning service (wherever the flight plan is entered, e.g. FSS, DUATS, AOC, etc.) [ICAO Standard ATS Messages] Transmitted in ALR and SPL as ICAO Field Type 19d, preceded by "S/" [AFTN] When transmitted by the AFTN, the message shall be assigned the same priority indicator as that in the request message. [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::SupplementaryInformation.survival_equipment

Survival Equipment Type	
<i>References</i>	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.71 Takeoff Alternate Aerodrome

Takeoff Alternate Aerodrome	
Definition	An alternate aerodrome (identified either as a named fix or a pair of latitude/longitude coordinates, or bearing and distance from the nearest significant point, or a marker radio beacon) at which an aircraft can land, should this become necessary shortly after take-off, and it is not possible to use the departure aerodrome
Alternate Names	
Has Parts	
Is Part Of	
Data Type	Location
Range of Values	If expressed as ICAO location identifier, values comply with ICAO Doc. 7910
Business Rules	A take-off alternate airport shall be selected and specified in the operational flight plan, if the weather conditions at the airport of departure are at or below the applicable airport operating minima or it would not be possible to return to the departure airport of departure for other reasons. The take-off alternate must be within a specified distance of the departure airport. For an airport to be selected as a take-off alternate, the available information shall indicate that, at the estimated time of use, the conditions will be at or above the airport operating minima for that operation
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in ALR, FPL, CPL, and SPL as ICAO Field Type 18, preceded by "TALT/" • [SESAR Harmonization] Element is not present in the SESAR 10.02.05 FO. Element has been added to a list for consideration for inclusion in the SESAR model.
References	<ul style="list-style-type: none"> • ICAO Doc. 7910 - Location Identifiers • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.72 Time En Route - Estimated

Time En Route - Estimated	
Definition	The total estimated time enroute, from the departure time to the arrival at the destination
Alternate Names	Total Estimated Elapsed Time, ICAO Field 16b
Has Parts	
Is Part Of	
Data Type	Time Duration
Range of Values	N/A
Business Rules	
Notes	<ul style="list-style-type: none"> • [ICAO Standard ATS Messages] Transmitted in all Standard ATS Messages except RCF and LAM as ICAO Field Type 16b • [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGL::FlightPlan.eet
References	<ul style="list-style-type: none"> • Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) • Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007

6.73 Wake Turbulence Category

Wake Turbulence Category	
Definition	ICAO classification of the aircraft wake turbulence based on the maximum certified takeoff mass
Alternate Names	Wake Turbulence, ICAO Field 9c
Has Parts	
Is Part Of	
Data Type	Enumeration
Range of Values	one of the following values: {L, M, H, J}
Business Rules	
Notes	<ul style="list-style-type: none"> The meaning of the values is as follows: <ul style="list-style-type: none"> H (Heavy) - aircraft types of 136,000 kg (300,000 lb) or more M (Medium) - aircraft types less than 136,000 kg (300,000 lb) and more than 7,000 kg (15,500 lb) L (Light) - aircraft types of 7,000 kg (15,500 lb) or less J (Super Heavy) - for Airbus A380-800 with a maximum take-off mass in the order of 560,000 kg [ICAO Standard ATS Messages] Transmitted in ALR, FPL, and CPL as ICAO Field Type 9c [FAA] The FAA does not currently support the ICAO J SUPER designation in this field. Instead, it adds the Super suffix to the call sign to indicate more stringent separation requirements. The FAA uses the following categorization: HEAVY - Aircraft capable of takeoff weights of more than 300,000 pounds (136,000 kg) or more whether or not they are operating at this weight during a particular phase of flight. LARGE - Aircraft of more than 41,000 pounds (19,000 kg), maximum certificated takeoff weight, up to but not including 300,000 pounds. SMALL - Aircraft of 41,000 pounds or less maximum certificated takeoff weight. See the FIXM NAS extensions [SESAR Harmonization] Element is present in the SESAR 10.02.05 FO model as FGI::FlightPlan.wtc
References	<ul style="list-style-type: none"> Amendment No. 1 To The Procedures For Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444) Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM ICAO 4444), 2007 Aircraft Type Designators - Doc. 8643

Appendix A: Glossary

Term	Definition
ACP	Designator for the standard ATS message type “Acceptance,” which falls under the “Coordination” message category.
ALR	Designator for the standard ATS message type “Alerting,” which falls under the “Emergency” message category.
ARR	Designator for the standard ATS message type “Arrival,” which falls under the “Filed flight plan and associated update” message category.
CDN	Designator for the standard ATS message type “Coordination,” which falls under the “Coordination” message category.
CHG	Designator for the standard ATS message type “Modification,” which falls under the “Filed flight plan and associated update” message category.
CNL	Designator for the standard ATS message type “Cancellation,” which falls under the “Filed flight plan and associated update” message category.
CPL	Designator for the standard ATS message type “Current flight plan,” which falls under the “Coordination” message category.
DEP	Designator for the standard ATS message type “Departure,” which falls under the “Filed flight plan and associated update” message category.
DLA	Designator for the standard ATS message type “Delay,” which falls under the “Filed flight plan and associated update” message category.
EST	Designator for the standard ATS message type “Estimate,” which falls under the “Coordination” message category.
FPL	Designator for the standard ATS message type “Filed flight plan,” which falls under the “Filed flight plan and associated update” message category.
INMARSAT	In the context of this document, INMARSAT is used to specify that data is transiting via the INMARSAT satellite network.
Iridium	In the context of this document, Iridium is used to specify that data is transiting via the Iridium satellite network.
LAM	Designator for the standard ATS message type “Logical acknowledgement,” which falls under the “Coordination” message category.
MTSAT	In the context of this document, MTSAT (Multifunctional Transport Satellites) is used to specify that data is transiting via the MTSAT satellite network.
RCF	Designator for the standard ATS message type “Radio communication failure,” which falls under the “Emergency” message category.

Term	Definition
RQP	Designator for the standard ATS message type “Request flight plan,” which falls under the “Supplementary” message category.
RQS	Designator for the standard ATS message type “Request supplementary flight plan,” which falls under the “Supplementary” message category.
SPL	Designator for the standard ATS message type “Supplementary flight plan,” which falls under the “Supplementary” message category.

Appendix B: Acronym List

Acronym	Definition
ACARS	Aircraft Communications Addressing and Reporting System
ADF	Automatic Direction Finder
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance- Broadcast
ADS-C	Automatic Dependent Surveillance- Contract
AFIL	Air Filed Flight Plan
AFTN	Aeronautical Fixed Telecommunication Network
AIP	Aeronautical Information Publication
AIM	Aeronautical Information Reference Model
AIXM	Aeronautical Information Exchange Model
ALERFA	Alert Phase
ALR	ICAO Airline Code
ALTRV	Altitude Reservation
ANSP	Air Navigation Service Provider
AOC	Airline Operations Center
APCH	Approach
AR	Arrival
ASDI	Aircraft Situation Display to Industry
ATFMX	Flight Approved for Exemption
ATM	Air Traffic Management
ATN	Aeronautical Telecommunication Network
ATS	Air Traffic Service
CMS	Common Message Set
CPDLC	Controller Pilot Data Link Communications
CPL	Current Flight Plan
DCT	Direct
DD	Data Dictionary
DETRESFA	Distress Phase
DME	Distance Measuring Equipment
DUAT	Direct User Access Terminal
EA	Enterprise Architecture
ELBA	Emergency Location Beacon-Aircraft
ELT	Emergency Locator Transmitter
ERAM	En Route Automation Modernization
FAA	Federal Aviation Administration

Acronym	Definition
FANS	Future Air Navigation System
FDE	Flight Data Element
FFR	Fire Fighting Aircraft
FIR	Flight Information Region
FIS	Flight Information Service
FIXM	Flight Information Exchange Model
FL	Flight Level
FLTCK	Flight Check Aircraft
FMC	Flight Management Computer
FO	Flight Object
FP	Flight Plan
FSS	Flight Service Station
GBAS	Ground Based Augmentation System
GNSS	Global Navigation Satellite System
GUFID	Globally Unique Flight Identifier
HAZMAT	Hazardous Materials
HF	High Frequency
HFDL	High Frequency Data Link
Hg	Mercury
HOSP	Hospital Wing Aircraft
HOST	FAA Enroute Computer System
hPa	Hecto Pascals
IAS	Initial Airspeed
IAW	In Accordance With
ICAO	International Civil Aviation Organization
ICD	Interface Control Document
IFR	Instrument Flight Rules
ILS	Instrument Landing System
INCERFA	Uncertainty Phase
INS	Inertial Navigation System
IRS	Inertial Reference System
IRU	Inertial Reference Unit
kHz	Kilohertz
Km	Kilometer
Kt	Knot
LAM	Logical Acknowledgement Message
LORAN	Long Range Navigation
MARSA	Military Assumes Responsibility for Separation of Aircraft
MEDEV	Emergency Medical Evacuation Aircraft

Acronym	Definition
AC	
MHz	Megahertz
MLS	Microwave Landing System
MNPS	Minimum Navigation Performance Specification
MTSAT	Multifunction Transport Satellite
NAS	National Airspace System
NAVAID	Navigational Aid
NDB	Non-directional Beacon
PANS	Procedures for Air Navigation Services
PBN	Performance Based Navigation
PDC	Pre-Departure Clearance
PIC	Pilot-in-Command
RCP	Required Communication Performance
RF	Radio Frequency
RNAV	Area Navigation
RNP	Required Navigation Performance
RTF	Radio Telephone
RVSM	Reduced Vertical Separation Minimum
SAR	Search and Rescue
SESAR	Single European Sky ATM Research
TACAN	Tactical Air Navigation System
TFMS	Traffic Flow Management System
SATCOM	Satellite Communications
SELCAL	Selective Calling Radio System
SID	Standard Instrument Departure
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival Route
TUFI	TFMS Unique Flight Identifier
UAT	Universal Access Transceiver
UHF	Ultra High Frequency
UML	Unified Modeling Language
UOM	Unit of Measure
UTC	Universal Coordinated Time
VDL	VHF Digital Link
VFR	Visual Flight Rules
VHF	Very High Frequency
VOR	VHF Omnidirectional Radio Range
WPR	Waypoint Position Reporting
WXXM	Weather Information Exchange Model

Appendix C: FIXM DD to FIXM Schema correspondence matrix

The table below shows the correspondence between the data elements captured in this document and the equivalent entities from the FIXM schemas.

FIXM DD Element	FIXM Schema Type
Action Taken By Reporting Unit	FlightEmergencyType
Airborne Equipment Qualifier	AircraftPerformanceCharacteristicsType
Aircraft Color and Markings	AircraftType
Aircraft Common Mark	AircraftType
Aircraft Identification	AircraftIdentifierType
	AircraftIdentificationType
Aircraft Operator Identity	AircraftType
Aircraft Performance Category	AircraftPerformanceCharacteristicsType
Aircraft Quantity	FlightPlanType
Aircraft Registration Mark	RegistrationType
Aircraft Registration Nationality	RegistrationType
Aircraft Type	AircraftType
	AirframeType
Arrival Aerodrome	FlightPlanArrivalType
Arrival Time - Actual	FlightPlanArrivalType
ATS Route Designator	SegmentAirwayType
ATS Route Designator	RouteSegmentType
Beacon Code	BeaconCodeType
Beacon Code	AircraftIdentificationType
Boundary Crossing Condition	BoundaryCrossingType
Boundary Crossing Level - Cleared	BoundaryCrossingType
Boundary Crossing Level - Limit	BoundaryCrossingType
Boundary Crossing Time	BoundaryCrossingType
Center to Center External Remarks	FlightPlanType
Center to Center External Remarks	RouteType
Change Altitude	ChangeSegmentType
Change Cruise Climb	ChangeSegmentType
Change Flight Rules	ChangeSegmentType
Change Point	ChangeSegmentType
Change Speed	ChangeSegmentType
Communications Capabilities	CommunicationCapabilityType
Cruising Level	CruiseSegmentType
Cruising Speed	CruiseSegmentType

FIXM DD Element	FIXM Schema Type
Data Link Communication Capabilities	CommunicationCapabilityType
Departure Aerodrome	FlightPlanDepartureType
Departure Time - Estimated	FlightPlanDepartureType
Destination Aerodrome	FlightPlanArrivalType
Destination Aerodrome - Additional Info	FlightPlanArrivalType
Destination Aerodrome - Alternate	FlightPlanArrivalType
Dinghy Color	DinghyType
Dinghy Cover Status	DinghyType
Dinghy Quantity	DinghiesType
Dinghy Total Capacity	DinghiesType
Emergency Description	FlightEmergencyType
Emergency Message Originator	FlightEmergencyType
Emergency Phase	FlightEmergencyType
Emergency Radio Transmitter Type	FlightEmergencyType
En Route Alternate Aerodrome	FlightPlanEnRouteType
En Route Delay - Filed	FlightPlanEnRouteType
Estimated Elapsed Time	FlightPlanType
Flight Plan Accepted	FlightPlanFilingType
Flight Plan Filer	FlightPlanFilingType
Flight Plan Originator	FlightPlanType
Flight Rules	FlightPlanRequestType
Flight Type	FlightPlanType
Fuel Endurance	FlightEmergencyType
Fuel Endurance	AircraftPerformanceCharacteristicsType
Globally Unique Flight Identifier	FlightType
Globally Unique Flight Identifier	GufiType
ICAO Wake Turbulence Category	AircraftPerformanceCharacteristicsType
Last Contact Radio Frequency	EmergencyContactType
Last Contact Time	EmergencyContactType
Last Contact Unit	EmergencyContactType
Last Known Position Report	EmergencyContactType
Last Known Position Report - Determination Method	EmergencyContactType
Life Jacket Type	LifeJacketTypeType
Navigation Capabilities	NavigationCapabilityType
Number of Persons on Board	FlightEmergencyType
Other Search and Rescue Information	FlightEmergencyType
Performance Based Navigation Capabilities	PerformanceBasedTypeType
Pilot In Command	FlightEmergencyType
Radio Failure Remarks	FlightEmergencyType

FIXM DD Element	FIXM Schema Type
Remaining Communication Capabilities	FlightEmergencyType
Route	FlightPlanType
Route	RouteType
Route - Revised Destination	FlightPlanType
Selective Calling Code	CommunicationCapabilityType
Special Handling Reason	FlightPlanType
Surveillance Capabilities	SurveillanceCapabilityType
Survival Equipment Remarks	SurvivalCapabilityType
Survival Equipment Type	SurvivalCapabilityType
Takeoff Alternate Aerodrome	FlightPlanDepartureType
Time En Route - Estimated	EstimatedTimeType